

WHAT IS CLAIMED IS:

1. A presensitized plate comprising:

an aluminum support which has a grain shape in a structure in which a grained structure with large undulation of 2 to 30 μm average wavelength, a grained structure with medium undulation of 0.5 to 5 μm average aperture diameter and a grained structure with small undulation of 0.01 to 0.5 μm average aperture diameter are superimposed and in which an average ratio of depth to aperture diameter of the grained structure with small undulation whose average aperture diameter is 0.01 to 0.5 μm is 0.1 to 1.0;

a hydrophilic layer whose thermal conductivity is 0.05 to 0.5 W/(m•K) and which is formed on the aluminum support; and

an image recording layer which includes a water-insoluble and alkali-soluble resin and an infrared absorbent, in which solubility in an alkali aqueous solution is increased by heating, and which is formed on the hydrophilic layer.

2. A presensitized plate comprising:

an aluminum support which has a grain shape in a

structure in which a grained structure with large undulation of 2 to 30 μm average wavelength, a grained structure with medium undulation of 0.5 to 5 μm average aperture diameter and a grained structure with small undulation of 0.01 to 0.5 μm average aperture diameter are superimposed and in which an average ratio of depth to aperture diameter of the grained structure with small undulation whose average aperture diameter is 0.01 to 0.5 μm is 0.1 to 1.0;

a hydrophilic layer which has a density ranging from 1.0 to 3.2 g/cm^3 or a porosity ranging from 20 to 70% and which is formed on the aluminum support; and

an image recording layer which includes a water-insoluble and alkali-soluble resin and an infrared absorbent, in which solubility in an alkali aqueous solution is increased by heating, and which is formed on the hydrophilic layer.

3. The presensitized plate according to claim 1, wherein the aluminum support is obtainable by subjecting an aluminum or aluminum alloy plate to mechanical graining treatment, chemical etching treatment in an alkali aqueous solution, desmutting treatment with an acid, electrochemical graining treatment using an electrolyte

containing nitric acid, electrochemical graining treatment using an electrolyte containing hydrochloric acid, chemical etching treatment in an alkali aqueous solution and desmutting treatment with an acid in this order.

4. The presensitized plate according to claim 2, wherein the aluminum support is obtainable by subjecting an aluminum or aluminum alloy plate to mechanical graining treatment, chemical etching treatment in an alkali aqueous solution, desmutting treatment with an acid, electrochemical graining treatment using an electrolyte containing nitric acid, electrochemical graining treatment using an electrolyte containing hydrochloric acid, chemical etching treatment in an alkali aqueous solution and desmutting treatment with an acid in this order.

5. The presensitized plate according to claim 1, wherein the hydrophilic layer is an anodized layer formed by an anodizing treatment.

6. The presensitized plate according to claim 2, wherein the hydrophilic layer is an anodized layer formed by an anodizing treatment.

7. The presensitized plate according to claim 5, wherein the hydrophilic layer is subjected to a hydrophilic surface treatment with an aqueous solution of an alkali metal silicate.

8. The presensitized plate according to claim 6, wherein the hydrophilic layer is subjected to a hydrophilic surface treatment with an aqueous solution of an alkali metal silicate.